

REMARKS/ARGUMENTS

Claims 21-107 are pending in the application of which claims 21-73 and 85-93 have been withdrawn from consideration and claims 74-84 stand rejected. Claims 94-107 are added. Claims 74 - 84 have been amended above. No claims have been deleted. Accordingly, claims 74-84 and 94-107 are pending in the application of which claim 74 is independent.

Claim Rejections Under § 103

Paragraph 2 of the previous Office Action rejects claims 74-80 under 35 U.S.C. § 103(a) as being unpatentable over Vincent (U.S. Patent 5,447,309) in view of Ryan (U.S. Patent 5,947,840) in further view of McCabe (U.S. Patent 6,306,048). Applicant respectfully traverses the rejection because Vincent, Ryan, and McCabe, alone or in combination, fail to teach, suggest, or disclose each and every element of the claims. Further, references cannot support a *prima facie* case of obviousness because they are improperly combined. While Applicants do not agree that a *prima facie* case of obviousness has been put forth, Applicants provide objective evidence of non-obviousness in the form of declarations from two leading club designers, a leading club representative responsible at the time of the invention for fitting the worlds best golfers with gold clubs, inventor Mitchel Voges, former U.S. amateur champion and the founder of one of the leading club fitting companies in the world, and several industry articles in rebuttal.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim

limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In order to allege a claim is obvious when references are combined under 35 U.S.C. 103(a) the combination must teach each and every limitation of the claim. In this case, the rejection must fail because Vincent, Ryan and McCabe alone or in combination, fail to teach each and every element of the claims as amended. Further, as the Federal Circuit has made clear, the first two criteria inform the prongs of the three-way test referred to in *Graham v. John Deere* in order to prevent the reliance on impermissible hindsight. In this case, the references fail to provide a proper motivation to combine the references or reasonable expectation of success. Accordingly, the rejection must fail and is at best based on improper hindsight.

Applicant has previously pointed out that Vincent fails to teach, suggest or disclose using inserts of a given weight in the crown and sole configured to achieve a desired center of gravity. As with the previous Action, this Action admits that Vincent does not teach a club head with a plurality of centers of gravity, or the ability to select one of those centers of gravity using crown and sole weights. In response, the previous and present Action combine Vincent with Ryan and McCabe alleging that these two references teach that inserts can be inserted into the sole and crown of a club head in order to achieve a desired center of gravity without effecting the overall weight. Specifically with respect to Ryan, figures 10 and 11 are cited, wherein the center of gravity is shifted horizontally by changing weight configurations in heel and toe inserts.

As Applicant previously pointed out, in certain embodiments described in the present application, the center of gravity of the club can be moved vertically up or down without changing the overall weight of the club head. This is important because it allows the golfer to

test various centers of gravity without effecting other variables such as swing weight. The ability to move the center of gravity in a vertical direction, without effecting other variable, is important because it allows the golfer to determine the optimum combination of launch angle, spin rate, and velocity; three factors the inventors determined are key for optimizing a golfer's carry distance and total distance when striking a golf ball. (See, e.g., the tables on page 12 and the accompanying description).

Accordingly, claim 74 as amended claims “[a] club head, comprising . . . a crown comprising a fitting configured to receive an insert, the insert comprising a weight configured to *move the center of gravity vertically, either up or down* the club head, and a sole plate comprising a fitting configured to receive an insert, the insert comprising a weight configured to *move the center of gravity vertically, either up or down, in conjunction with the crown weight without effecting the overall weight* of the club head.”

In contrast, while Ryan does teach that the center of gravity can be moved vertically by changing weights in heel and toe inserts, this cannot be achieved in the embodiments of Ryan without changing the overall weight. (See figures 12-15). Accordingly, neither Vincent nor Ryan, alone or in combination, teach suggest or disclose a club head such as is claimed in claim 74. In fact, Ryan teaches away from the invention claimed in claim 74.

Thus, McCabe must make up for the deficiencies of Vincent and Ryan, which it does not. Vincent does not teach the ability to change the center of gravity via weights inserted into the crown and sole of the club, without changing the overall weight of the club as required by claim 74. Neither does Ryan and neither does McCabe. Yet the Action states that when the teachings of these three references are combined they teach the ability to change the center of gravity via weights inserted into the crown and sole of the club, without changing the overall weight of the

club as required by claim 74. In fact, not Vincent, not Ryan, not McCabe, alone or in combination, teach suggest or disclose a club head such as is claimed in claim 74. Accordingly, Vincent, Ryan and McCabe fail to make out a *prima facie* case of obviousness, because the references, alone or in combination, fail to teach each and every element.

Moreover, it is only with improper hindsight that one would even think to combine the references to achieve the invention of claim 74. In fact, not even the inventors of the references themselves thought to combine the teachings in the manner proposed by the Action. This is because Vincent and Ryan are directed to correcting hooks and slices resulting from poor swing mechanics and/or miss hits and not to optimizing the launch angle, spin rate, and velocity. Further, the purpose of McCabe is to alter the club head weight. (See col. 1, lines 10-38). Accordingly, there is no motivation, and certainly no indication that one would be successful, to combine Vincent, Ryan and McCabe to achieve the invention as claimed in claim 74.

As the present application notes on page 11, paragraph 34, determining the optimum configuration is a function of several variables. These variables include club head loft and center of gravity, shaft stiffness, torque, butt stiffness and torque, tip stiffness and torque, and weight, as well as variables related to the ball being used. A club fitting system that would allow the club fitter to isolate different variables in order to quickly and efficiently fit a golfer with a club that performs optimally for that golfer was not known in the prior art and is not disclosed in the cited reference. This need was met by the golf club head with adjustable center of gravity, which is the subject of claim 74 and the quick disconnect disclosed in the present application and the subject of new claims 94-107 which depend from claim 74.

The quick disconnect system, comprises a bore in the club head and a hosel fitting that attached to the shaft and is received by the bore. A fastener, such as a screw, can then be

inserted through the bottom of the bore in order to fasten the hosel fitting, and therefore the shaft, to the club head. (See figure 8 and the accompanying description). The ability to adjust the center of gravity, without effecting the overall weight of the club head, allows the center of gravity to be changed, e.g., via the inserts, or to have multiple club heads with different centers of gravity, but the same overall weight, shape, and size, available to be interchanged with varying shafts via the quick disconnect system. (See figures 2-7 and the accompanying description).

But in order to quickly and efficiently fit a golfer, a methodology was also needed to allow the variables to be isolated and altered so as to achieve optimization in the shortest amount of time. Conventionally, optimization was achieved through an ad hoc approach based on experience and trial and error (Cite). Such conventional approaches were time consuming and did not always produce optimal results (Cite). Compounding the problem was a general misunderstanding of what needed to be achieved in order to obtain optimal club performance.

The inventors of the present application determined that the conventional approach, and the underlying assumptions were flawed. Rather, they determined that the launch angle, spin rate, and velocity all need to be optimized relative to each other regardless of ability in order to achieve optimal results for a particular golfer. (See figure 9 and the accompanying description). The ability to change the center of gravity of the club head, as claimed, e.g., in claim 74, is integral to the systems and methodologies described in the present application and that overcome the incorrect assumptions and problems of conventional approaches to club fitting. The Action alleges that the admitted differences between the prior art and the present claims would have been obvious to one of skill in the art. The evidence presented below clearly indicates that this is simply not the case.

For example, Mr. Vincent was working at Taylor Made Golf Company at the time he developed the inventions described in the '309 patent cited in the Action. Mr. Vincent still works at Taylor Made and is primarily responsible for club development; however, it was not until 2007 that Mr. Vincent's company, Taylor Made, came out with a custom fitting system such as that described and claimed in the present application. (See Equipment: Custom Fitting the SelectFit Way, Jennifer Gardner (2007)) article in the IDS included herewith.

Similarly, Callaway Golf (see the Shaft Testing Made Simple article in the IDS included herewith), Versus Golf (see Premium Golf Equipment Company Versus Officially Announces the Release of the SX.1 (Shaft Exchange) Driver article in the IDS included herewith), and Nakashima Golf (see Club Maker Wants USGA to OK Removable Shafts article in the IDS included herewith) have all recently announced similar systems.

With respect to the movable center of gravity of claim 1, the Taylor Made system includes the removable weights made popular by their R7 Series of Drivers. As illustrated in the attached material from Taylor Made's web site, these weights can be used to alter the center of gravity in order to effect the launch angle. The R7 series of driver, again developed by Mr. Vincent's company, did not come out until well after Mr. Voges developed his system, and the R7 technology wasn't included in a fitting system until 2007.

Therefore, it is clear that it was not obvious to those of skill in the art at the time of the invention to combine the references cited in the Action

Paragraph 3 rejects claims 81-84 as being as being unpatentable over Vincent in view of Ryan in further view of McCabe as applied to claims 74-80, and in further view of Woods (U.S. Patent 6,273,828). Applicant respectfully traverses the rejection because Vincent, Ryan, McCabe, and Woods, alone or in combination, fail to teach, suggest, or disclose each and every

element of the claims. Specifically, claims 81-84 ultimately depend from claim 74. Accordingly, claims 81-84 are allowable for the reasons stated above with respect to claim 74 unless Woods makes up for the deficiencies of Vincent, Ryan, and McCabe, which it does not. Applicant therefore respectfully requests that the rejection of claims 81-84 be withdrawn.

Paragraph 4 of the Action rejects claims 74-80 under 35 U.S.C. § 103(a) as being unpatentable over Vincent (U.S. Patent 5,447,309) in view of Sahm (U.S. Patent 4,869,507) in further view of McCabe (U.S. Patent 6,306,048). Applicant respectfully traverses the rejection because Vincent, Sahm, and McCabe, alone or in combination, fail to teach, suggest, or disclose each and every element of the claims. Further, for the reasons stated above, Applicant does not believe that that McCabe can support a *prima facie* case of obviousness because it is improperly combined with Vincent and Sahm.

Again, as noted above, Vincent and McCabe, alone or in combination, do not teach each and every limitation of the claims. Therefore, Sahm must make up for the deficiencies of Vincent and McCabe, which it does not. As with Ryan and McCabe, and contrary to the assertion contained in the Action, Sahm teaches changing the swing weight, which is in direct opposition to the invention claimed, e.g., in claim 74. Specifically, as noted in the Abstract, Sahm is directed to a weighting system that uses “weights [that] are made of materials of varying density. Weighting changes can easily be effected by removing an existing set of weights and replacing them with a set made of *greater or lesser density* material. (emphasis added).”

Further, as noted in col. 4, lines 2-5, the embodiments disclosed in Sahm use three different weights of different weight and installs them in different combinations in order to alter the swing weight and weight dispersal from heel to toe. But Sahm does not teach, suggest, or

disclose the ability to change the vertical center of gravity without changing the overall weight of the club.

Accordingly, The cited prior art cannot render claim 74 obvious. Applicant therefore respectfully requests the rejection of claim 74 be withdrawn. Applicant also request that the rejection of claims 75-80 be withdrawn since these claims depend from claim 74, which is itself allowable over the cited prior art.

Paragraph 5 rejects claims 81-84 as being as being unpatentable over Vincent in view of Sahm in further view of McCabe as applied to claims 74-80, and in further view of Woods (U.S. Patent 6,273,828). Applicant respectfully traverses the rejection because Vincent, Sahm, McCabe, and Woods, alone or in combination, fail to teach, suggest, or disclose each and every element of the claims. Specifically, claims 81-84 ultimately depend from claim 74. Accordingly, claims 81-84 are allowable for the reasons stated above with respect to claim 74 unless Woods makes up for the deficiencies of Vincent, Sahm, and McCabe, which it does not. Applicant therefore respectfully requests that the rejection of claims 81-84 be withdrawn.

CONCLUSION

Based on the above amendments and remarks, Applicant believes that the claims are in condition for allowance and such is respectfully requested. Applicant believes that no additional claims fees are necessitated by this response. If any additional fees are due the Commissioner is hereby authorized to charge any additional fees required by this response to our Deposit Account No. **13-0480** (Attorney Docket No. 67175523-001101).

Respectfully Submitted,

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By: /NoelCGillespie/

Noel C. Gillespie, Reg. No. 47,596
Baker & McKenzie
2001 Ross Avenue, Suite 2300
Dallas, TX 75201
Telephone: (858) 523-6231
Facsimile (214) 978-3099